ABSTRACT

GENERAL BIOLOGY
PARTICIPATION OF SRC GENE IN CADMIUM- INDUCED BONE CHANGES IN MICE.
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Cadmium is a heavy metal known to have an adverse effect on people exposed to it both in environmental and occupational settings. We hypothesize that cadmium acts by stimulating osteoclastic pathways to release calcium-45 from bone. Mice, which are heterozygous for src gene deficiency, were mated and produced a litter of four heterozygous wild type pups (+/0= +/+, +/-). Mother (dam) was administered calcium-45 drinking water for skeletal labeling. Calcium-45 was transferred to pups through breast milk during lactation. The pups were weaned into metabolism cages with powdered basal diet where fecal and urine collections were made. Two doses of cadmium solution were given by gavage, one on day 25 and the second on day 32. Fecal and urine collections were dissolved in hydrochloric acid and placed into a scintillation counter to determine amount of calcium-45 excreted in feces and urine. Upon analyzing the data, cadmium targeted the bone to cause a slight increase in fecal calcium-45 concentration of mice that received cadmium doses compared to the control mouse. These results show that cadmium on exposure acts on bone to cause the release in the calcium content of *src* normal mice (wild type). This experiment provided a mouse model to study the effect of cadmium on the release of calcium from bone in *src* or *fos* gene deficient mice.

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